METHOD AND APPARATUS FOR PROVIDING AND INTEGRATING HIGH-PERFORMANCE MESSAGE QUEUES IN A USER INTERFACE ENVIRONMENT

Abstract of the Disclosure

A method and apparatus is provided for providing and integrating high-performance message queues. "Contexts" are provided that allow independent worlds to be created and execute in parallel. A context is created with one or more threads. Each object is created with context affinity, allowing any thread inside the context to modify the object or process pending messages. Threads in a different context are unable to modify the object or process pending messages for that context. To help achieve scalability and context affinity, both global and thread-local data is often moved into the context. Remaining global data has independent locks, providing synchronized access for multiple contexts. Each context has multiple message queues to create a priority queue. There are default queues for sent messages and posted messages, carry-overs from legacy window managers, with the ability to add new queues on demand. A queue bridge is also provided for actually processing the messages.